Henry Ford Hospital Medical Journal

Volume 28
Number 2 *Richmond W. Smith Jr. Testimonial Issue*

Article 15

6-1980

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Henry Ford Hosp Med J
Vol 28, No 2 and 3, 1980

# The Presentation of Thyroid Malignancy in the Geriatric Patient

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*Of 334 patients with thyroid carcinoma, 36 were age 65 or older. The sex distribution of the geriatric patients did not significantly differ from that of the younger patients. Older patients had significantly fewer papillary carcinomas and significantly more anaplastic and medullary carcinomas and lymphomas than younger patients. Papillary and follicular carcinomas of geriatric patients were large (4 cm or larger) significantly more often than those of the younger patients. Only one of 53 patients with very small (1 cm or less) papillary and follicular carcinomas was in the older group.*

Thyroid malignancy is uncommon, and most patients are between 20 and 40 years old when the diagnosis is established. For those under 40 the prognosis is usually very good, but it declines progressively with age (1). The histological type is also important in the prognosis; anaplastic carcinomas are almost always rapidly fatal (2), whereas papillary and follicular carcinomas carry a more favorable prognosis.

In the past 18 years we have been impressed with differences in tumor size and histological type in the thyroid malignancies seen in geriatric patients (age 65 and older) compared to those in younger people. This report compares tumor size and histology in the two age groups and discusses their clinical implications.

## Materials and Methods

Between 1962 and 1969, 334 patients with malignancy of the thyroid presented to the author's clinic in Southfield, Michigan, for diagnosis. Of the 334, 36 were 65 years of age or older.

Excluded from this report are: 1) patients with thyroid malignancy diagnosed elsewhere before consultation with the author; 2) patients with atypical adenomas and Hürthle cell adenomas, even though the potential malignancy of these lesions is not always clear; and 3) small (occult) malignancies discovered during a thyroidectomy for another reason and not detected by palpation of the thyroid gland preoperatively.

The diagnosis for all patients was confirmed on surgical specimens. Pathology reports were the primary basis for the diagnosis, although tissue sections were reviewed for many patients. In doubtful situations, pathologists with a special interest and expertise in thyroid malignancy were consulted.

Histologically, thyroid malignancies were classified as follows: papillary carcinoma; follicular carcinoma; Hürthle cell carcinoma; anaplastic carcinoma; medullary carcinoma; lymphoma of the thyroid; and metastatic carcinoma of the thyroid.

Carcinomas composed of mixtures of papillary and follicular elements were considered papillary as long as any papillary component could be identified. Although some authorities include Hürthle cell carcinomas with follicular carcinomas, this author agrees with those who recognize that the Hürthle cell carcinoma tends to be larger and more aggressive, and thus should be dealt with separately. Lymphomas are included only if the lesion was clearly intrathyroidal.

## Results

Table I shows the distribution of thyroid malignancies by age, sex, and histologic type. Of the 36 geriatric patients, 7 (19%) were men and 29 (81%) were women, percentages

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**TABLE I**

**Age and Sex Distribution for 334 Thyroid Malignancies by Histological Type**

| | <40 | | 40-64 | | 65+ | | Total | |
|---|---|---|---|---|---|---|---|---|
| | M | F | M | F | M | F | M | F |
| Papillary | 24 | 112 | 19 | 85 | 2 | 10 | 45 | 207 |
| Follicular | 7 | 20 | 3 | 6 | 1 | 4 | 11 | 30 |
| Hürthle Cell | 1 | 3 | 0 | 5 | 1 | 1 | 2 | 9 |
| Anaplastic | 0 | 0 | 0 | 2 | 1 | 6 | 1 | 8 |
| Medullary | 1 | 2 | 0 | 1 | 1 | 4 | 2 | 7 |
| Lymphoma | 1 | 0 | 2 | 2 | 0 | 4 | 3 | 6 |
| Metastatic | 1 | 0 | 0 | 1 | 1 | 0 | 2 | 1 |

not significantly different from the sex distribution for younger patients. As is usually the case, papillary carcinomas predominated, while anaplastic carcinomas constituted less than 3% of the malignancies, much less than the frequency in most reports. This figure reflects the nature of the author's practice, which consists exclusively of outpatients. Many small tumors were detected in patients referred for other considerations; almost all of these were papillary or follicular carcinomas. In contrast, other large series of thyroid malignancies, which have been reported from cancer centers or university hospitals, probably include more selected malignancies of greater severity.

Table II compares the two age groups for the histological type and size of the malignancies. Chi-square analysis indicates that the geriatric patients have a significantly smaller number of papillary carcinomas ($p < .005$) and a significantly larger number of anaplastic carcinomas ($p < .001$), medullary carcinomas ($p < .001$), and lymphomas ($p < .001$). Differences in numbers of follicular, Hürthle cell, and metastatic carcinomas were not significant.

Nine patients with papillary carcinoma presented with enlarged lateral lymph nodes without palpable primary lesions. One patient each with a papillary and a follicular carcinoma presented with multinodular goiters. The pathology reports did not indicate which of the palpable nodules was the tumor. One patient with medullary carcinoma was diagnosed on the basis of family history and serum calcitonin levels, although there was no palpable nodule. These 12 patients will not be considered further.

Chi-square analysis (Table II) also indicates that in the geriatric patients a significantly greater number of papillary ($p < .001$) and follicular ($p < .005$) carcinomas present as large tumors (4 cm or larger). Also, two thirds of the large lymphomas were in the geriatric group (Table II). All nine patients with anaplastic carcinomas had large tumors.

**TABLE II**

**Histological Types and Size of Thyroid Malignancy in Geriatric and Younger Patients**

| | Age | | | | Size | | | |
|---|---|---|---|---|---|---|---|---|
| | <65 | | 65+ | | Small* | | Large** | |
| | No. | % | No. | % | <65 | 65+ | <65 | 65+ |
| Papillary | 240 | 80 | 12 | 33 | 222 | 7 | 18 | 5 |
| Follicular | 36 | 12 | 5 | 14 | 31 | 2 | 5 | 3 |
| Hürthle Cell | 9 | 3 | 2 | 6 | 5 | 0 | 4 | 2 |
| Anaplastic | 2 | 1 | 7 | 19 | 0 | 0 | 2 | 7 |
| Medullary | 4 | 1 | 5 | 14 | 2 | 3 | 2 | 2 |
| Lymphoma | 5 | 2 | 4 | 11 | 3 | 0 | 2 | 4 |
| Metastic | 2 | 1 | 1 | 3 | 1 | 0 | 1 | 1 |
| Total | 298 | 100 | 36 | 100 | 264 | 12 | 34 | 24 |

* Small=less than 4 cm

** Large=4 cm or larger

**TABLE III**

**Age Distribution of Very Small* Papillary and Follicular Thyroid Malignancies**

| | <40 | 40-64 | 65+ | Total |
|---|---|---|---|---|
| Papillary | 24 | 19 | 0 | 43 |
| Follicular | 8 | 1 | 1 | 10 |

* Very small=1 cm or less

Table III gives the age distribution for 53 patients with very small papillary and follicular thyroid carcinomas. The largest diameter of these tumors was 0.5 cm (10 patients), 0.75 cm (9 patients), and 1 cm (34 patients). All were detected by palpation preoperatively, and only one was in an older patient.

## Discussion

Our study indicates that the geriatric patient has a greater number of the larger and more malignant thyroid tumors. One reason for this finding may be that smaller lesions, especially papillary and follicular carcinomas, which antedated the larger malignancies, were overlooked and allowed to remain in situ until they became large enough that they were obvious to the patient or the physician. In some instances, long-standing papillary carcinoma may be transformed into the more malignant anaplastic lesion (4,5).

Although many thyroid cancers have the physical features that make diagnosis on clinical grounds quite easy, others may seem quite benign (i.e., neither hard and irregular nor

associated with adjacent enlarged lymph nodes). Since the prognosis for these larger tumors is worse than that for smaller lesions (6), both in terms of mortality and recurrence, early diagnosis is important. For other patients some lesions are larger because they are initially more aggressive.

In the geriatric population large benign goiters are more common than thyroid malignancies, and it is important to differentiate these from the larger, more aggressive thyroid malignancies often seen in the elderly. Needle biopsy is an important technique for this purpose.

Since the elderly patient often is not a good surgical candidate, it is tempting to assume that a mass in such a patient is benign and to conclude that, on a percentage basis, observation may be safer than thyroidectomy. Although this conservative attitude has merit for most patients, others may suffer from an important delay in diagnosis. For those with medullary carcinoma, the diagnosis carries important implications not only for the patient but also for other members of the family. One of our patients with medullary carcinoma was observed from age 77 until 80, when the diagnosis was made by needle biopsy. Later, seven members of the family had small medullary carcinomas detected by calcitonin assays. Had this patient died from another cause before the diagnosis was made, the presence of medullary carcinoma in other members of the family might not have been evident until the tumors reached a much larger size and possibly carried a substantially worse prognosis.

Fortunately, the growing use of needle biopsy permits much greater accuracy of preoperative diagnosis in thyroid masses in the geriatric patient and, as a corollary, better therapeutic judgment (7). Greater awareness that a thyroid malignancy in the elderly is less likely to be the indolent type characteristic of the younger patient should provide the impetus for more precise diagnosis of thyroid masses, especially large ones.

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